Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period:\_\_\_\_\_\_\_\_\_

**Notes Questions for the Unit 10, Part 3 Notes: Chromosomal Genetics**

Thank you to Ms. Glick

**Vocabulary:** The following terms have been chosen for you from the Part 3 Notes. Define each term in the set and identify a connection between the two terms in the set.

1. Terms: Law of Dominance and Law of Segregation and Law of Independent Assortment

Definitions and Connection:

2.Terms: nondisjunction and aneuploidy

Definitions and Connection:

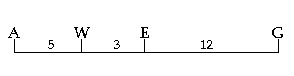
3.Terms: recombination frequency and linkage maps

Definitions and Connection:

**Ideas / Concepts:** The following are three main ideas/concepts from the Part 3 Notes. For each idea provide a one sentence explanation of that overarching idea.

1. *Consequences of improper separation of homologous chromosomes*
2. *The differences between linked and unlinked genes*
3. *How crossing over can be used to determine the location of genes on a chromosome*

**Supporting Evidence:** Choose one of the key ideas listed above and expand upon this main idea in 2-3 more sentences

1. Using the map to the right, between which two genes would you expect the lowest frequency of recombination?
2. Using the karyotype to the right, what types of information can you draw? (i.e. Does the person have a disorder? What type of disorder? What happened to produce this disorder? What else can you tell about this person?)

|  |  |
| --- | --- |
|  | F2 Generation |
| 165 | red eyes, straight wings |
| 168 | purple eyes, curly wings |
| 8 | purple eyes, straight wings |
| 6 | red eyes, curly wings |

1. A male fruit fly (*Drosophila melanogaster*) with red eyes and straight wings was mated with a female with purple eyes and curly wings. All of the offspring in the F1 generation had red eyes and straight wings. These F1 flies were test crossed with purple-eyed, curly-winged flies. Their offspring, the F2 generation, appeared as indicated to the right.
   1. Why is there a high frequency of red eyed /straight winged flies and purple eyed / curly winged flies?
   2. How is it possible to have purple eyed / straight winged flies and red eyed / curly winged flies?